



LAMAR UNIVERSITY

Week 3 Assignment #1 – Descriptive Statistics

Directions

You will type your responses on a separate Word document that you create. To submit your assignment, you will click on the open button, attach your work, and submit.

Use the rubric on the final page of this document to guide your work.

For this assignment, you will use class data from your grade book for one class or section of about 20–25 students to compute descriptive statistics. You will compute and compare the class averages for two grade reporting periods. No names or other identifying information should be included. If possible, use the 2nd and 4th six-week averages. If you are on a nine-week schedule, select two representative reporting periods, such as 1st and 3rd nine-week averages. If your school does not report grades numerically, if your class roll is less than 20 students, or if you have questions about data for this assignment, contact your academic coach.

Using this information, determine and discuss if the class academic performance changed from one six week grading period to the other. Respond to all the items below.

Descriptive Statistics

Create a chart like the one below to model your data in a separate Word Document.

Remember do **not** use actual names of students.

Data Collection (Example)

STUDENT	GENDER	ETHNICITY	1 st reporting period (2nd 6 week averages)	2 nd reporting period (4th 6 week averages)
a	M	H	87	87
b	F	W	88	85
c	M	AA	92	89
d	M	H	93	95
e	F	A	97	99

Compute and report the frequency distribution by gender and ethnicity.

Gender

Male _____

Female _____

Ethnicity

African/American _____

Asian _____

Hispanic _____

Native American _____

White _____

Other _____

For both reporting periods, compute and report the mean, mode, and median.

Semester	Range	Mean	Mode	Median
2 nd six weeks				
4 th six weeks				

Next, prepare a bar graph to illustrate the frequency distribution for the gender and the ethnicity of the students in your class. Frequency distribution is addressed in McMillan and Schumacher (2006), on pages 153-158. You may use Microsoft Excel or other software to create your graph. Copy and paste the Excel graph into your Word document.

Next, compute and report descriptive statistics (mean, mode, and median) for academic performance of each six-week set of data (2nd and 4th 6 week final grade). Report all numeric values according APA style. Do not use more than 2 decimal places. When you are finished, write responses to the prompts provided below.

- For the 2nd six weeks data is the mean skewed from the mode positively, negatively, or is there a normal distribution? Briefly defend your response.
- For the 4th six weeks data is the mean skewed from the mode positively, negatively, or is there a normal distribution? Briefly defend your response.
- Briefly discuss (2-5 sentences, not more than 2 paragraphs) your understanding of the student academic performance in your class.

Rubric

Use the following Rubric to guide your work on Week 3 Assignment #1.

Tasks ↓	Accomplished 10-8 points	Proficient 7-6 points	Needs Improvement 5-0 points
Submit data	Data submission is redacted, with ID code, gender, ethnicity, and grade average for each of two reporting periods submitted for 20-25 students, or coach approval of data set.	Data submission is redacted, with ID Code, gender, ethnicity, and grade average for each of two reporting periods submitted for 20-25 students, or coach approval of data set.	Submitted data is incomplete, sample is less than required without coach approval, or not formatted according to model.
Frequency distribution	Frequency distribution of gender and ethnicity is computed and reported without errors.	Frequency distribution of gender and ethnicity is computed and reported without errors.	Frequency is reported with errors.
Graph of frequency distribution	Each graph (or pictograph) depicts frequency distribution accurately including graph title, data type, and values provided (either data labels or axis labels).	Graphs depict data accurately but labels or values missing.	Graphs do not depict frequency distributions in an understandable manner, or data not depicted accurately, missing graph(s).
Descriptive Statistics	Mean, mode, median and range are reported correctly for both reporting periods according to APA style.	Mean, mode, median and range are reported for both reporting periods with APA style errors.	Mean, mode, median and range are not reported correctly.
2nd 6 week Distribution/ 4th 6 week Distribution	Normal distribution or skew is reported correctly and described in relation to student academic performance.	Normal distribution or skew is reported correctly and described by restating reported values.	Normal distribution or skew is not reported correctly or description does not represent computed values.
Compare/Discuss changes in student performance	Discussion addresses amount and direction of change in student averages with reasonable rationale for change or significant skew.	Discussion addresses amount and direction of change in student averages without strong rationale.	Discussion or rationale for change or skew is unreasonable, or not supported by computations.